

Serial No. 09/214,971

PATENT
Docket No. 58009-011900REMARKS

The Applicants have carefully considered the detailed Office Action and set forth detailed responses herein. Reconsideration of the above application is respectfully requested.

Claim Amendments and New Claims

The Applicants have made amendments to the claims as appropriate.

New claims 37 to 55 have been added. Claims 37 to 50 are set out as method claims and claims 51 to 55 are composition claims.

Apart from that, the Applicants respectfully disagree with the Examiner's characterization that previously pending Claims 8, 9, 13, 14, 18, 19, 24 to 36 are product-by-process claims. These claims are defined as being a **method of using** a composite material. The product is defined. These are not claims where the product is being defined by the method. (1)

Synopsis of the Invention (2)

This invention relates to treating leather and reconstructed (regenerated) leather by coating it with polyethylene. The present invention relates to reconstructed leather material or natural leather, which are natural products derived from animal hide.

Contrarily, artificial leather, also called synthetic leather, leatherette, or leatheroid, is a non-natural product. Artificial leather is made of synthetic materials, such as a polymer, fabric, or nonwoven material.

The Applicants have found that the application of a polyethylene coating to a reconstructed leather sheet greatly improves the properties and the appearance of reconstructed leather.

It is well known to those skilled in the art that the properties and appearance of reconstructed leather are not as good as natural leather, although it is much cheaper than the natural product. Tests have shown that if the polyethylene coating is provided with a leather scent, it is almost impossible to distinguish the reconstructed leather with the polyethylene coating from a natural leather sheet without a coating.

Serial No. 09/214,971

PATENT
Docket No. 58009-011900

Synthetic leather products, which are very different, have been formed in practice with polyvinyl chloride and polyurethane, but not in the Applicant's experience with polyethylene. This is a very different substrate. Just because it is called synthetic "leather", does not make it natural leather. It is always well recognized that a synthetic product is very different in many respects from a natural product.

Accordingly, the advance of using polyethylene to enhance the natural-based leather product is significant.

Legal Standards

The Applicants believe that it is appropriate under the circumstances and status of this application to be reminded of the legal standards for determining patentability in the case of an invention in the manner now claimed.

The MPEP states in relevant part:

2143 Basic Requirements of a *Prima Facie* Case of Obviousness

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. (emphasis added).

The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). (emphasis added).

1. 2143.01 Suggestion or Motivation To Modify the References
 - a. THE PRIOR ART MUST SUGGEST THE DESIRABILITY OF THE CLAIMED INVENTION

"There are three possible sources for a motivation to combine references: the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art." *In re Roussel*, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457-58 (Fed. Cir. 1998) (The combination of the references taught every element of the claimed invention, however without a motivation to combine, a rejection based on a *prima facie* case of obvious was held improper). The level of skill in the art cannot be relied upon to provide

(3)

Serial No. 09/214,971

PATENT
Docket No. 58009-011900

the suggestion to combine references. *Al-Site Corp. v. VSI Int'l Inc.*, 174 F.3d 1308, 50 USPQ2d 1161 (Fed. Cir. 1999). (emphasis added).

"In determining the propriety of the Patent Office case for obviousness in the first instance, it is necessary to ascertain whether or not the reference teachings would appear to be sufficient for one of ordinary skill in the relevant art having the reference before him to make the proposed substitution, combination, or other modification." *In re Linter*, 458 F.2d 1013, 1016, 173 USPQ 560, 562 (CCPA 1972).

Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is **some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art.** "The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art." *In re Kotzab*, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000).

See also *In re Lee*, 277 F.3d 1338, 1342-44, 61 USPQ2d 1430, 1433-34 (Fed. Cir. 2002) (discussing the importance of relying on objective evidence and making specific factual findings with respect to the motivation to combine references); *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

Further Authorities on the Appropriate Legal Standards are:

Combination of References

Winner International Royalty Corp. v. Wang, 202 F.3d 1340, 1348, 53 USPQ2d 1580, 1586 (Fed. Cir. 2000) ("The dispute here focuses on the combinability of the prior art. When an obviousness determination is based on multiple prior art references, there must be a showing of some 'teaching, suggestion, or reason' to combine the references").

Gambro Lundia AB v. Baxter Healthcare Corp., 110 F.3d 1573, 1579, 42 USPQ2d 1378, 1383 (Fed. Cir. 1997) (also noting that the 'absence of such a suggestion to combine is dispositive in an obviousness determination').

Prima facie Obviousness Standard

In re Dance, 160 F.3d 1339, 1343, 48 USPQ2d 1635, 1637 (Fed. Cir. 1998) ("To establish a **prima facie** case of obviousness based on a combination of the content of various references, there must be **some teaching, suggestion or motivation in the prior art to make the specific combination that was made by the applicant.**") (emphasis added).

Riverwood International Corp. v. Mead Corp., 212 F.3d 1365, 1366, 54 USPQ2d 1763, 1765 (Fed. Cir. 2000), cert. denied, 121 S. Ct. 567 (2000) ("when obviousness is based on particular

Serial No. 09/214,971

PATENT
Docket No. 58009-011900

prior art references, there must be a showing of a suggestion or motivation to combine the teachings of those references, though it need not be expressly stated.”).

Hindsight

In re Dembiczaik, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999) (“Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references.”). Also see *Ecolochem, Inc. v. Southern California Edison Co.*, 227 F.3d 1361, 1371, 56 USPQ2d 1065, 1073 (Fed. Cir. 2000).

Ruiz v. A.B. Chance Co., 234 F.3d 654, 664, 57 USPQ2d 1161, 1167 (Fed. Cir. 2000) (“In order to prevent a hindsight-based obviousness analysis, we have clearly established that the relevant inquiry for determining the scope and content of the prior art is whether there is a reason, suggestion, or motivation in the prior art or elsewhere that would have led one of ordinary skill in the art to combine the references.”). (emphasis added).

The MPEP states in relevant part:

1. 716.03 Commercial Success
 - a. NEXUS BETWEEN CLAIMED INVENTION AND EVIDENCE OF COMMERCIAL SUCCESS REQUIRED

An applicant who is asserting commercial success to support its contention of non-obviousness bears the burden of proof of establishing a nexus between the claimed invention and evidence of commercial success.

The Federal Circuit has acknowledged that the applicant bears the burden of establishing nexus. The PTO must rely upon the applicant to provide hard evidence of commercial success.

b. COMMERCIAL SUCCESS ABROAD IS RELEVANT

Commercial success abroad, as well as in the United States, is relevant in resolving the issue of non-obviousness. *Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 221 USPQ 481 (Fed. Cir. 1984).

Rejections

The main rejection on the merits relates to two references, Parker and Irion, and the Examiner has maintained that it is obvious to combine their teachings.

The other references are not discussed in detail in this response, since they are secondary to the issues raised in the references of Parker and Irion.

Serial No. 09/214,971

PATENT
Docket No. 58009-011900

Parker refers to reconstructed leather. Irion refers to synthetic leather. These are very different substrates. Synthetic leather can be coated with polyurethane or polyethylene.

Prior Art Has No Motivation For Combination

Fundamentally, there is no motivation, teaching or suggestion in the prior art for applying polyethylene to reconstructed leather or natural leather, both being natural products. (7)

Parker discloses a method for the production of reconstituted leather. In a first step a required amount of polyurethane latex is diluted with water and then the required amount of shredded scrap leather fiber is added stepwise to the latex mixture. At this stage, other materials may also be incorporated into the mixture to improve the properties of the final reconstituted leather sheet, such as unbleached kraft pulp to increase resistance, or a coalescing agent which aids in the reconstituted leather sheet formation. Once added in the slurry, these added materials cause the polymeric articles to deposit out of the slurry in a more uniform pattern and adhere in an integrated network.

The second step refers to the sheet production, which is performed using conventional paper making equipment and related procedures.

A third optional step comprises the coating with the same polymeric material (polyurethane) or others, depending upon the desired surface characteristics of the sheet being produced.

The use of polyurethane latex coating is the only one clearly reported in the specification. No other references are given for any other kind of coatings. So, Parker clearly teaches away from the subject matter, polyethylene on natural leather or reconstituted leather, in the present application.

Irion describes the process for bonding a polyethylene film to a fibrous web. Irion cannot be considered in view of Parker for rendering unpatentable the subject matter related to the present application.

The Irion process involves the permeation of the backing web by molten polyethylene which is allowed to cool to approximately room temperature or below while in seemingly

↓
method of making
irrelevant

Since Parker can
never be coated
in PE is known
good protection
of substrates

Serial No. 09/214,971

PATENT
Docket No. 58009-011900

NO proof showing it wouldn't work
Not to mention Parker contains kraft paper which is fibers
intimate contact with the web fibers. However, despite these seemingly optimum conditions, the bond between the polyethylene film and the backing web is weak (column 2, lines 28-34).

Irion only relates to synthetic materials, namely the substrate is a polyurethane foam and fibrous web. Irion discloses bonding an embossed polyethylene film to fibrous web. It is a synthetic product. As discussed above, the fibrous web is a substrate clearly different from natural leather in property.

There is a significant inventive advance in the invented method as carried out on leather or reconstructed leather, which is not synthetic leather. This use is not remotely suggested in Irion, nor in Parker. No suggestion at all is given in either reference that the method can be carried out on a natural leather or reconstructed leather.

The substrate and the coating materials as claimed in combination are different.

As is well known to those skilled in the art, the properties of leather or reconstructed leather are clearly different to artificial leather or synthetic leather.

It should be clear that leather or reconstructed leather, as used in the claims of this patent application, is a natural product, and not an artificial product, such as artificial or synthetic leather. It is well known that the properties and appearances of reconstructed leathers are clearly different from those of artificial or synthetic leathers. Reconstructed leathers are composed of natural collagen fibers, which possess significantly different properties from synthetic polymers. Therefore, the coating methods of the polymers are also clearly different due to the difference of their properties. Furthermore, the reconstructed leather or natural leather possesses much better high temperature resistance and chemical resistance compared with that of artificial leathers.

Simply stated, there is no disclosure, teaching or suggestion at all that the methods of any of the prior art can be carried out on the natural products of leather or reconstructed leather.

There is a significant inventive advance in the present invention. It is, as defined, for natural leather or reconstructed leather. Both are natural products, and not synthetic products.

Serial No. 09/214,971

PATENT
Docket No. 58009-011900Before The Invention, It Was Counterintuitive To Coat The Natural Leather Product With Polyethylene*Not commensurate
in scope w/
prior art*

The coating principles and methods of the polymers are different. Therefore, inventiveness was needed for polyethylene to be used in the method and composition of the present claims.

It was well known to those skilled in the art that the nice appearance of leather will be spoiled if the polyethylene film is coated. However, unexpectedly and contrary to belief, the excellent appearance of leather could be obtained by the present invention. It is a great advance in the art. Therefore, the claims of the present invention involve inventive step, and it is believed that the claims as now submitted are allowable.

This agrees w/
The Examiner can point to no motivation in the prior art to combine the teachings of the prior art to achieve the results of the invention. It is only the present Applicants who took that unexpected and counterintuitive step and produced a superior product as now claimed. And, since it was the Applicant, and not the prior art, that achieved this, and the Examiner cannot show anything to the contrary, the present invention as claimed is allowable.

It is particularly interesting to note that the reference of Irion is a 1952 teaching of synthetic leather treatment. Then, in 1966 there is the Parker reference that dealt with reconstituted leather and its treatment. Both those technologies are entirely different. Thirty years later in 1996, the application for the present invention was filed.

These very long spaces of time between the three different technologies implicitly, and indeed explicitly, show the non-obviousness of the current invention. The field of leather treatment is an old and active one which is subject to extensive technology workings around the world. Yet, despite this, no one before the present inventors were able to conceive of applying the coating from the artificial (synthetic) field of leather to the field of natural leather or reconstituted natural leather in a manner to bring the significant advances to the natural product that have been achieved.

It is the most clear form of hindsight imaginable for the Examiner to progressively look for references based on the invention as claimed, and simply without any basis in these

Serial No. 09/214,971

PATENT

Docket No. 58009-011900

*Reconstructed leather
Not Natural leather*

references state that it would be obvious to combine the teachings of those references to come up with present invention. In fact, nothing more than the long time gaps, covering about 50 years between the different teachings in the active technological field, could be clearer to show that it occurred to no one, before the present inventors, for the present invention to be created as defined. Indeed, the references leave very large holes in the two different kinds of technology. These holes have been filled for the first time by the present invention.

There has been created for the first time a natural leather product with a polyethylene coating. It is a superior product than previously available. To use reconstructed leather, which is formed of shards and pieces of leather usually inferior to the natural leather sheet appearance, and to apply polyethylene to the leather, and obtain a product equal to natural leather, is a major advance which has been recognized and is clearly patentable.

The Examiner seems to dismiss, without any argument to support the Examiner's position, the statement that persons in the field would normally not apply a coating which would have been thought to spoil the natural product. Persons in that the field simply would not do such things, namely, to apply polyethylene to a natural leather product. The Examiner can provide no evidence to the contrary.

There is no motivation in either one of the references to combine the technology of either reference with the other reference. Respectfully, it is only the Examiner who has allegedly formed a motivation to combine those teachings. This is the trap of hindsight into which the Examiner has unfortunately fallen. This is not permissible, as is clear from the standards of law which are to be applied, and which are elucidated above.

The Invention Is For A Significantly Enhanced Polyethylene Coated
Leather Natural Product

=> Proof

Respectfully, and contrary to the opinion of the Examiner, a skilled person, an expert in leather working, would be forced away from the technical solution of the present application, since it would hide or destroy all the good properties of the leather article itself.

*Reconstructing
Wet
Natural
Leather*

*independent
statement
in the
out*

Serial No. 09/214,971

PATENT
Docket No. 58009-011900

The present invention makes significant progress compared with prior art. It would be counter-intuitive to coat natural leather with a coating such as polyethylene. One would be taking a high quality natural product, and seemingly degrading it.

Yet the application of polyethylene to the natural product -- leather and reconstructed leather -- has brought about a significant advance in the leather industry.

Polyethylene coated reconstituted leather by the invention is now made available as a superior leather product, which previously was not feasible or possible.

Natural leather was previously coated with polyurethane, in some instances, for the purposes of conferring higher water resistance, a soft and smooth sensation to the touch as well as homogeneous appearance. It included the disadvantages of not being resistant to scrapes or scratches and, once deteriorated, the polyurethane surface would appear very rough and irregular. Polyurethane is a very different coating to polyethylene.

Therefore, here also the invented polyethylene coated leather has advantages of being very resistant to mechanical stress, as well as to water, with the high valuable appearance of the natural leather.

The Examiner Did Not Consider The Commercial Success Of
The Present Invention

⇒ Act 1 claim
not described

Applicants have previously submitted a declaration of the Applicant, Gabriele Valente, showing commercial success with the product of the invention.

This shows even more so that, without advertising, the invented product has made a significant impact on the market. It is there pointed out that persons skilled in the art for more than 40 years have signed valuable and important license agreements for the invented technology. The potential economical advantage of these agreements could be about \$1.5 million per annum for the life of the patent. The international commercial success has been directly related to the excellent properties resulting from the invented product.

The Examiner has made no reference in the last Office Action to this commercial success declaration. The Examiner has not responded to the declaration or taken into account the facts

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Serial No. 09/214,971

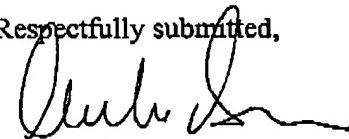
PATENT
Docket No. 58009-011900

set out there. If there was any doubt in this matter is submitted that this declaration is a second consideration , which clearly overcomes any rejection that the Examiner may wish to make.

Conclusion

In view of the above, it is submitted that this application is now in good order for allowance, and such early action is respectfully solicited. Should matters remain which the Examiner believes could be resolved in a telephone interview, the Examiner is requested to telephone the Applicant's undersigned attorney.

Respectfully submitted,



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